

## FILE NOTATIONS

Entered in NID File ..... ✓  
Location Map Pinned ..... ✓  
Card Indexed ..... ✓

Checked by Chief .....  
Approval Letter .....  
Disapproval Letter .....

## COMPLETION DATA:

Date Well Completed .....

OW..... WW..... TA.....

GW..... OS..... PA.....

Location Inspected .....

Bond released

State or Fee Land .....

## LOGS FILED

Driller's Log.....

Electric Logs (No.) .....

E..... I..... Dual I Lat..... GR-N..... Micro.....

BRC Sonic GR..... Lat..... MI-L..... Sonic.....

CBLog..... CCLog..... Others.....

# UTAH DIVISION OF OIL, GAS AND MINING

REMARKS: WELL LOG — ELECTRIC LOGS — FILE X WATER SANDS — LOCATION INSPECTED — SUB. REPORT/ABD.

DATE FILED 3-21-78

LAND: FEE & PATENTED

STATE LEASE NO.

PUBLIC LEASE NO. U-27359

INDIAN

DRILLING APPROVED: 3-28-78

SPUDDED IN:

COMPLETED:

PUT TO PRODUCING:

INITIAL PRODUCTION:

GRAVITY A.P.I.

GOR:

PRODUCING ZONES:

TOTAL DEPTH:

WELL ELEVATION:

DATE ABANDONED:

LA Feb. 17, 1982

FIELD: Virgin

3/86

UNIT:

COUNTY: Washington

WELL NO. Ace #2

API NO: 43-053-30033

LOCATION 630'

FT. FROM XX (S) LINE.

500'

FT. FROM XX (W) LINE.

SW SW SW  $\frac{1}{4}$  -  $\frac{1}{4}$  SEC. 14

13

TWP.	RGE.	SEC.	OPERATOR	TWP.	RGE.	SEC.	OPERATOR
				<u>41S</u>	<u>12W</u>	<u>14</u>	<u>ZION CRUDE OIL COMPANY</u>

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY

## APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

## 1a. TYPE OF WORK

DRILL ☒DEEPEN ☐PLUG BACK ☐

## b. TYPE OF WELL

OIL  
WELL ☒GAS  
WELL ☐

OTHER

SINGLE  
ZONE ☒MULTIPLE  
ZONE ☐

## 2. NAME OF OPERATOR

Zion Crude Oil Company

## 3. ADDRESS OF OPERATOR

POBox 370, Hurricane, Utah 84737

## 4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.)\*

At surface

300'FNL &amp; 1200'FWL SEC 23

At proposed prod. zone

same

## 14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE\*

Approx. 1 mile NE of Virgin, Utah

## 15. DISTANCE FROM PROPOSED\*

LOCATION TO NEAREST  
PROPERTY OR LEASE LINE, FT.  
(Also to nearest drlg. unit line, if any) -----18. DISTANCE FROM PROPOSED LOCATION\*  
TO NEAREST WELL, DRILLING, COMPLETED,  
OR APPLIED FOR, ON THIS LEASE, FT. -----

## 16. NO. OF ACRES IN LEASE

360

## 19. PROPOSED DEPTH

1000'

17. NO. OF ACRES ASSIGNED  
TO THIS WELL

40 (NW NW SEC 23)

## 20. ROTARY OR CABLE TOOLS

rotary

## 21. ELEVATIONS (Show whether DF, RT, GR, etc.)

3612' GR

## 22. APPROX. DATE WORK WILL START\*

within 90 days of  
completion of ACE #1

## 23.

## PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
8" surface	7" OD	11.5#/ft.	100'	cemented to surface of ground.

Only one of the two wells, ACE #1 & #2 will be produced. ACE #2 will be drilled in the event of failure with ACE #1.

All other information pertaining to ACE #2 is the same for that on ACE #1.

IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: If proposal is to deepen or plug back, give data on present productive zone and proposed new productive zone. If proposal is to drill or deepen directionally, give pertinent data on subsurface locations and measured and true vertical depths. Give blowout preventer program, if any.

## 24.

SIGNED

*Martin Krutzberg*

TITLE Vice-President

DATE 8-25-77

(This space for Federal or State office use)

PERMIT NO. \_\_\_\_\_

APPROVAL DATE \_\_\_\_\_

APPROVED BY \_\_\_\_\_

TITLE \_\_\_\_\_

DATE \_\_\_\_\_

CONDITIONS OF APPROVAL, IF ANY:

District Oil and Gas Engineer  
U. S. Geological Survey  
Conservation Division  
8440 Federal Building  
Salt Lake City, Utah 84138

Re: Stipulation  
Zion Crude Oil Co.  
ACG #2

Dear Sir:

Zion Crude Oil Company is the owner of U. S. Oil and Gas Lease U-27359, and proposes to drill a well on the leased premises to test for oil and gas at a location in the NE  $\frac{1}{4}$  NW  $\frac{1}{4}$  NW  $\frac{1}{4}$  Section 23, T. 41S, R. 12W, SLB+ Mer., Washington County, State of Utah, 300' from North line and 1200' from West line of Section 23.

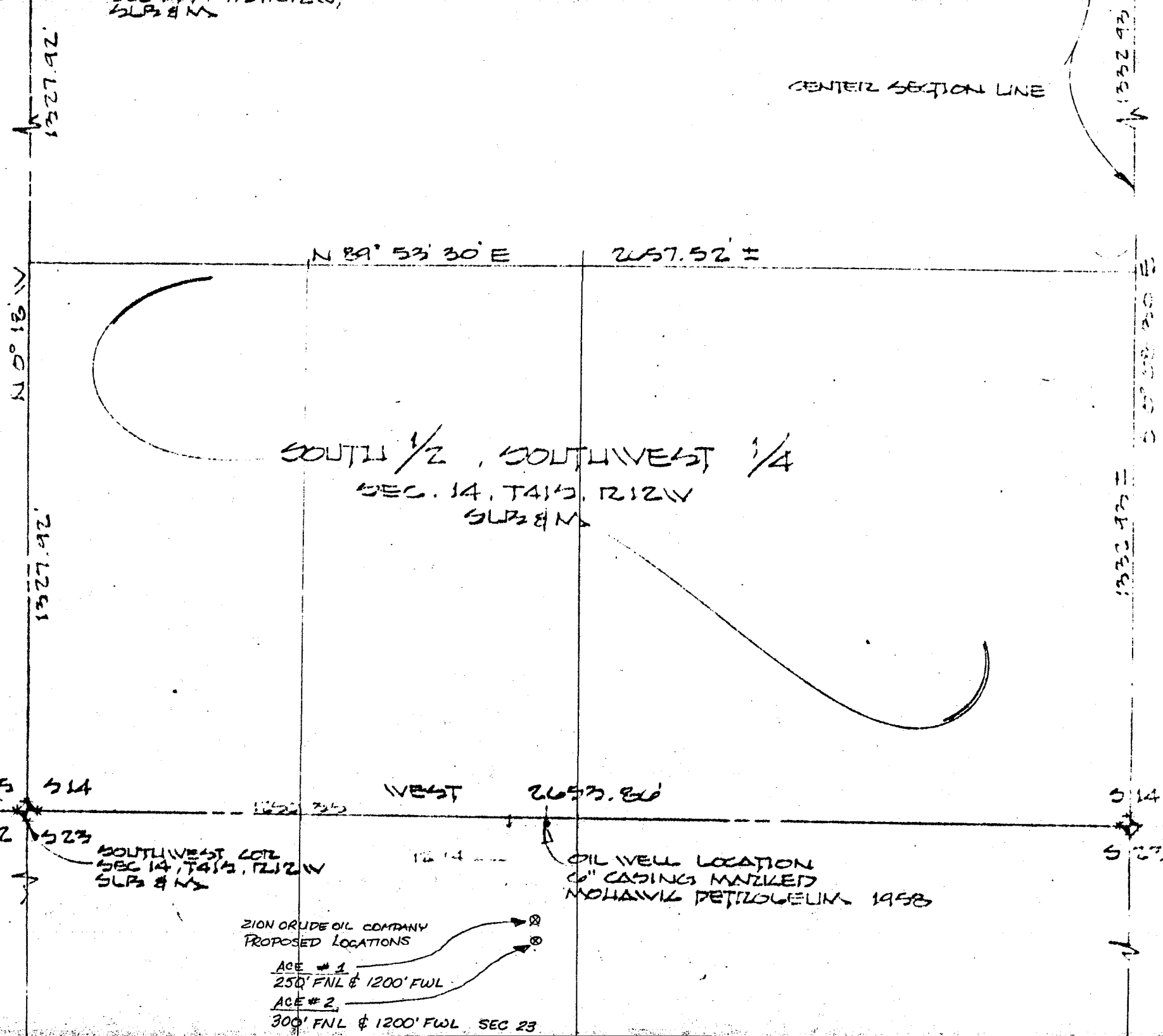
Section 221.20 of the Federal Oil and Gas Regulations requires that no well be drilled less than 200' from the boundary of any legal subdivision without the written consent of the Supervisor, United States Geological Survey. The proposed location is approximately 137' from the West boundary line of the NE  $\frac{1}{4}$  NW  $\frac{1}{4}$  of Section 23, but is considered to be necessary because of critical nature of well placement, i.e. high accuracy required to contact relatively narrow target oil zone.

Therefore, Zion Crude Oil Co., Lessee, requests the consent of the Supervisor to the drilling of the proposed well at the above-described location. In consideration of such consent, Zion Crude Oil Co., Lessee, hereby expressly covenants and agrees that he will make no separate assignments of the NW  $\frac{1}{4}$  NW  $\frac{1}{4}$  and the NE  $\frac{1}{4}$  NW  $\frac{1}{4}$ , Section 23, T. 41S, R. 12W, SLB+ Mer., and that he will keep the two described subdivisions under joint assignment until the above-mentioned well has been plugged and abandoned with the approval of the Supervisor.

Very truly yours,  
Martin Kneiting  
VICE-PRESIDENT  
ZION CRUDE OIL CO.  
8-25-77



SCALE: 1"=300'



STATE OF UTAH  
DIVISION OF OIL, GAS, AND MINING

\*\* FILE NOTATIONS \*\*

Date: Sept. 6-  
Operator: Zinn Crude Oil Co.  
Well No: Acc #2  
Location: Sec. 23 T. 41S R. 12W County: Washington

File Prepared ☐ Entered on N.I.D. ☐  
Card Indexed ☐ Completion Sheet ☐

CHECKED BY:

Administrative Assistant \_\_\_\_\_

Remarks: \_\_\_\_\_

Petroleum Engineer \_\_\_\_\_

Remarks: \_\_\_\_\_

Director \_\_\_\_\_

Remarks: \_\_\_\_\_

INCLUDE WITHIN APPROVAL LETTER:

Bond Required ☐ Survey Plat Required ☐

Order No. \_\_\_\_\_ Surface Casing Charge ☐  
to \_\_\_\_\_

Rule C-3(c), Topographic exception/company owns or controls acreage  
within a 660' radius of proposed site ☐

O.K. Rule C-3 ☐ O.K. In \_\_\_\_\_ Unit ☐

Other: \_\_\_\_\_

☐ Letter Written/Approved

September 8, 1977

Zion Crude Oil Company  
P.O. Box 370  
Hurricane, Utah 84737

Re: Well No. Ace #1  
Sec. 23, T. 41 S, R. 12 W,  
Washington County, Utah

Gentlemen:

Insofar as this office is concerned, approval to drill the above referred to well is hereby granted in accordance with Rule C-3(C), General Rules and Regulations and Rules of Practice and Procedure.

However, as this Division is no longer approving multiple applications within a general area, due to the possibility of conflicting spacing patterns, etc.; this Division will withhold approval of your Ace #2 location until the #1 has been drilled and the outcome of the well determined. Should the #1 be found a dry hole, approval for the #2 may be granted at such time as you notify this office for the plugging procedure for the #1.

Should you determine that it will be necessary to plug and abandon the above referred to well, you are hereby requested to immediately notify the following:

PATRICK L. DRISCOLL - Chief Petroleum Engineer  
HOME: 582-7247  
OFFICE: 533-5771

Enclosed please find Form OGC-8-X, which is to be completed whether or not water sands (aquifers) are encountered during drilling.

Further, it is requested that this Division be notified within 24 hours after drilling operations commence, and that the drilling contractor and rig number be identified.

Zion Crude Oil Company  
September 8, 1977  
Page Two

The API number assigned to this well is 43-053-30030.

Very truly yours,

DIVISION OF OIL, GAS, AND MINING

CLEON B. FEIGHT  
Director

CBF:sw

cc: U.S. Geological Survey



UNITED STATES  
DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1a. TYPE OF WORK

DRILL ☒

DEEPEN ☐

PLUG BACK ☐

b. TYPE OF WELL

OIL  
WELL ☒

GAS  
WELL ☐

OTHER

SINGLE  
ZONE ☒

MULTIPLE  
ZONE ☐

2. NAME OF OPERATOR

ZION CRUDE OIL COMPANY

3. ADDRESS OF OPERATOR

BOX 370, HURRICANE, UTAH 84737

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements)  
At surface

500' FWL & 630' FSL, SEC 14

At proposed prod. zone

same

SW SW SW

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE\*

Approx. 1 mile NE of Virgin, Utah

15. DISTANCE FROM PROPOSED\*

LOCATION TO NEAREST  
PROPERTY OR LEASE LINE, FT.  
(Also to nearest drlg. unit line, if any)

16. NO. OF ACRES IN LEASE

360

17. NO. OF ACRES ASSIGNED

TO THIS WELL

40

18. DISTANCE FROM PROPOSED LOCATION\*

TO NEAREST WELL, DRILLING, COMPLETED,  
OR APPLIED FOR, ON THIS LEASE, FT.

19. PROPOSED DEPTH

570'

20. ROTARY OR CABLE TOOLS

rotary percussion

21. ELEVATIONS (Show whether DF, RT, GR, etc.)

3600'

22. APPROX. DATE WORK WILL START\*

within 90 days of apvl.

23.

PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
8" surface	7"OD	11.5#/ft.	50'	8-10 sacks
6 1/2" to TD				

A. EXHIBITS "A" thru "F" are included with this application. These exhibits satisfy the specific information concerning the access and drilling of this well.

B. This application is in lieu of a an application previously filed (but not approved) for a well named ACE #2.

ok

IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: If proposal is to deepen or plug back, give data on present productive zone and proposed new productive zone. If proposal is to drill or deepen directionally, give pertinent data on subsurface locations and measured and true vertical depths. Give blowout preventer program, if any.

24.

SIGNED

Martin Kutzgig

TITLE Vice-President

DATE

3-10-78

(This space for Federal or State office use)

PERMIT NO.

43-053-30033

APPROVAL DATE

APPROVED BY

TITLE

DATE

CONDITIONS OF APPROVAL, IF ANY:

STATE OF UTAH  
DIVISION OF OIL, GAS AND MINING

\*\* FILE NOTATIONS \*\*

Date: March 21-  
Operator: Zinn Crude Oil Co.  
Well No: ACE #2  
Location: Sec. 14 T. 41S R. 10W County: Washington

File Prepared: ☒ Entered on N.I.D.: ☒  
Card Indexed: ☒ Completion Sheet: ☒

API NUMBER: 43-053-30033

CHECKED BY:

Administrative Assistant [Signature]

Remarks:

Petroleum Engineer [Signature]

Remarks:

Director 7

Remarks:

INCLUDE WITHIN APPROVAL LETTER:

Bond Required: [Signature]

Survey Plat Required: ☐

Order No. ☐

Surface Casing Change ☐  
to ☐

Rule C-3(c), Topographic exception/company owns or controls acreage  
within a 660' radius of proposed site ☐

O.K. Rule C-3 ☒

O.K. In ☐ Unit ☐

Other:

☒ Letter Written/Approved

March 28, 1978

Zion Brude Oil Co.  
Box 370  
Hurricane, Utah 84737

Re: Well No. Ace #2  
Sec. 14, T. 41 S, R. 12 W,  
Washington County, Utah

Gentlemen:

Insofar as this office is concerned, approval to drill the above referred to well is hereby granted in accordance with Rule C-3(a), General Rules and Regulations and Rules of Practice and Procedure.

Should you determine that it will be necessary to plug and abandon this well, you are hereby requested to immediately notify the following:

PATRICK L. DRISCOLL - Chief Petroleum Engineer  
HOME: 582-7247  
OFFICE: 533-5771

Enclosed please find Form OGC-8-X, which is to be completed whether or not water sands (aquifers) are encountered during drilling.

Further, it is requested that this Division be notified within 24 hours after drilling operations commence, and that the drilling contractor and rig number be identified.

The API number assigned to this well is 43-053-30033.

Very truly yours,

DIVISION OF OIL, GAS, AND MINING

CLEON B. FEIGHT  
Director

cc: U.S. Geological Survey

FROM: District Geologist, Salt Lake City, Utah

TO: District Engineer, Salt Lake City, Utah

Lease No.

SUBJECT: APD supplemental stipulations

427359

Operator:

Zion Crude

Location:

SW  $\frac{1}{4}$  SW  $\frac{1}{4}$  sec. 14 T. 41S, R. 12W

Well: Ace #2

Washington Co., Utah

1. Operator picked tops are adequate? Yes ☒, No ☐. If not: The following are estimated tops of important geologic markers:

Formation

Depth

Formation

Depth

2. Fresh water aquifers likely to be present below surface casing? Yes ☐, No ☒. If yes: Surface casing program may require adjustment for protection of fresh water aquifers to a depth of approximately \_\_\_\_\_ feet in the \_\_\_\_\_ Formation.

3. Does operator note all prospectively valuable oil and gas horizons? Yes ☒, No ☐. If not: The following additional horizons will be adequately logged for hydrocarbons:

Unit

Depth

Unit

Depth

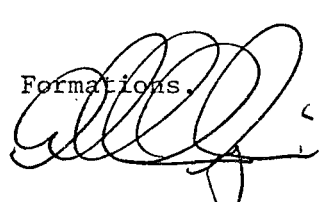
4. Any other leasable minerals present? Yes ☐, No ☒. If yes: 1. Logs (\_\_\_\_\_)\*) will be run through the \_\_\_\_\_\*\* at approximate depths of \_\_\_\_\_ to \_\_\_\_\_ feet to adequately locate and identify anticipated \_\_\_\_\_ beds. 2. Logs (\_\_\_\_\_)\*) will be run through the \_\_\_\_\_\*\* at approximate depths of \_\_\_\_\_ to \_\_\_\_\_ feet to adequately locate and identify anticipated \_\_\_\_\_ beds. 3. Logs (\_\_\_\_\_)\*) will be run through the \_\_\_\_\_\*\* at approximate depths of \_\_\_\_\_ to \_\_\_\_\_ feet to adequately locate and identify anticipated \_\_\_\_\_ beds.

5. Any potential problems that should be brought to operators attention (e.g. abnormal temperature, pressure, incompetent beds, H<sub>2</sub>S)? Yes ☐, No ☒. If yes, what?

6. References and remarks: Bahr, CW, 1963, IAPG Guidebook

\* From 10 pt or others as necessary. \*\* Members, Formations.

Date: 3-31-78

Signed: 

Oil and Gas Drilling

EIA No. 968

United States Department of the Interior  
Geological Survey  
8440 Federal Building  
Salt Lake City, Utah 84138

Usual Environmental Analysis

Lease No. U-27359

Operator Zion Crude Oil Company

Well No.        Ace No. 2

Location 500' FWL 630' FSL Sec. 14 T. 41S R. 12W

County Washington State Utah Field Virgin

Status: Surface Ownership Public Minerals Public

Joint Field Inspection Date March 13, 1978

Participants and Organizations:

Martin Kuetzing

Zion Crude Oil Company

Sue Cedarleaf

Bureau of Land Management

John Evans

U. S. Geological Survey

Related Environmental Analyses and References:

- (1) Cedar City District Oil & Gas EAR, Bureau of Land Management, Cedar City.
- (2) Hurricane Unit Resource Analysis, Bureau of Land Management, Cedar City.

Analysis Prepared by:

John T. Evans  
Environmental Scientist  
Salt Lake City, Utah

Date April 9, 1978

Proposed Action:

The Operator has submitted an Application for Permit to Drill, Form 9-331C, on March 15, 1978, with a 10-Point drilling and a 13-Point surface use programs, which are on file with the U. S. Geological Survey, Oil and Gas Operations, Salt Lake City, Utah.

The Operator proposes to drill an oil test well with rotary tools to about 570 feet T.D. to explore and develop potential hydrocarbon reserves in the Kaibab Limestone formation.

The Operator proposes to construct: a drill pad 50 feet by 100 feet, a reserve pit 12 feet by 15 feet, a new access road 10 feet wide by 0.5 miles long, and to place production facilities on the disturbed area of the drill pad.

The Operator also proposes a 50 feet radius truck turn-around at the drill location.

The Operator plans to upgrade an existing road to a 10 feet wide road by blading and light graveling. Approximately 0.5 miles of road would be improved.

The Operator proposes to rehabilitate disturbed areas upon completion of operations and areas not needed for production per the specifications of the Bureau of Land Management.

The anticipated starting date is about April 15, 1978, and the duration of drilling activities would be about ten working days.

Geology:

Moenkopi formation is present at the surface. A geologic review of the proposed action has been furnished by the Area Geologist. U. S. Geological Survey, Salt Lake City, Utah.

Fresh water sands are not anticipated to be encountered during drilling. The casing and drilling program would be adjusted, if necessary, to protect any fresh water aquifers encountered during drilling.

Produced water would be disposed of per the requirements of NTL-2B.

There are no known geologic hazards or abnormal pressures expected.

The Operator's drilling, cementing, casing and blowout prevention programs have been reviewed by the Geological Survey Engineers and determined to be adequate.

Soils:

No detailed soil survey has been made of the project area. The soils have been classified as type No. 68, per the Soils of Utah Bulletin 492, Utah State University, Logan, Utah, March 1975. Type No. 68 soils are called lockland type and runoff is high on this association. The soils are generally stabile and suitable for road construction

use during dry periods. A light graveling would decrease erosional potential along road surfaces and is desirable.

Top soils would be removed from the surface and stockpiled. The soil would be spread over the surface of the disturbed areas when abandoned to aid in rehabilitation of the surface. Rehabilitation is necessary to retard erosion and encroachment of undesired species upon the disturbed areas.

The Operator proposes to rehabilitate the location and access roads per the recommendations of the Bureau of Land Management.

Approximately one acre of land would be stripped of vegetation and this would increase the erosional potential. Proper construction practice, construction of water bars, reseeding of slope-cut areas would minimize this impact.

Air:

No detailed air quality or meteorological data is available at the project area. A generalization of air quality, meteorology, precipitation, surface water hydrology, and ground water hydrology is available from the Cedar City District Environmental Analysis Review. The air quality is judged to be high due to the low industrialization and population in the area. The proposed activities should have minor or no affect on these parameters.



#### Fauna and Flora:

An Animal and Plant inventory has been made by the Bureau of Land Management. No endangered plants or animals are known to habitate in the project area. Small mammals, rodents, and deer are known to habitate in the general project area. Animals would probably move away from drilling activities due to noise and increased activity and return after drilling activities are complete. The reserve pits would be fenced and overhead flagged if oil is present in the reserve pits.

Plants in the area are the salt-desert-shrub type. The proposed action would remove approximately two acres of sparse vegetation in the project area. The removal of vegetation would increase erosional potential and there would be minor decrease in the amount of vegetation available for grazing.

#### Social Economic Effects:

An archaeoligical reconnaissance will be made of the area to be affected by the proposed action and appropriate clearances would be obtained from the surface managing agency. If a historic artifact, an archaeological feature or site is discovered during construction operations, activity would cease until the extent, the scientific importance, and the methods of mitigating the adverse effects could be determined by a qualified cultural resource specialist.

The economic effect of one well would be difficult to determine. Although the Virgin oil field was Utah's first oil field, production in this field is marginal. There are no occupied dwellings or other facilities of this nature on the lease. Minor distraction from the aesthetics would occur over the lifetime of the project and judged to be minor. The present use of the area is grazing, recreation, and oil and gas activities. Noise from the drilling operation may temporarily disturb wildlife and people in the area; however, the noise would subside upon completion of drilling activities to near pre-drilling levels.

Adverse Environmental Effects which cannot be avoided:

Surface disturbance and removal of vegetation from approximately two acres of land surface for the lifetime of the project which would result in increased and accelerated erosional potential. Grazing would be eliminated in the disturbed areas and there would be minor and temporary disturbance of wildlife and livestock. Minor induced air pollution due to exhaust emission from rig engines and support traffic engines would occur. Minor increase in dust pollution would occur due to vehicular travel associated with the operation. The potential for fires, leaks, spills of gas, oil or water would exist. During construction and drilling phases of the project, noise levels would increase. Minor distraction from aesthetics during the lifetime of the project. If the well is a producer, an irreplaceable and irretrievable commitment of resources would be made in order to supply

man's requirements for an energy source.

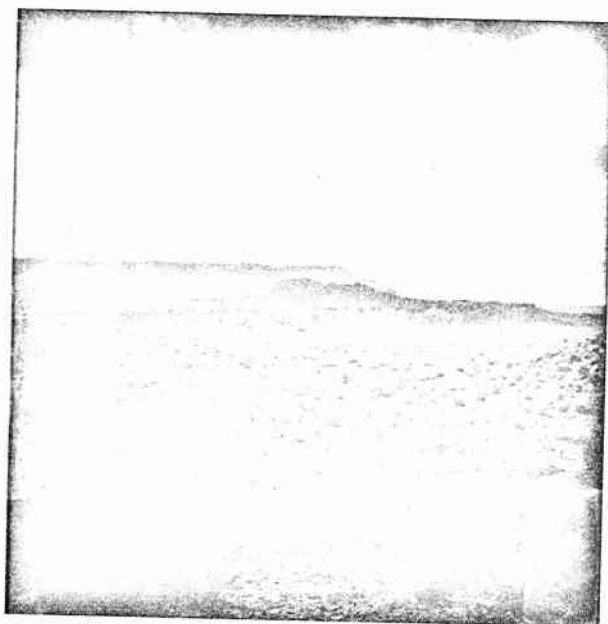
Alternatives to the Proposed Action:

Not approving the proposed permit - - The Oil and Gas Lease grants lessee exclusive right to drill for, mine, extract, remove, and dispose of all oil and gas deposits.

Deny the proposed permit and suggest an alternate location to minimize environmental impacts. No alternate location on this lease that would significantly reduce the environmental impact could be selected. It is noted that Zion Crude Oil Company has applied for two locations under the name Ace 2; one in Section 23 and One in Section 14. It is recommended that one or the other of the well site names be changed for clarification of the records.

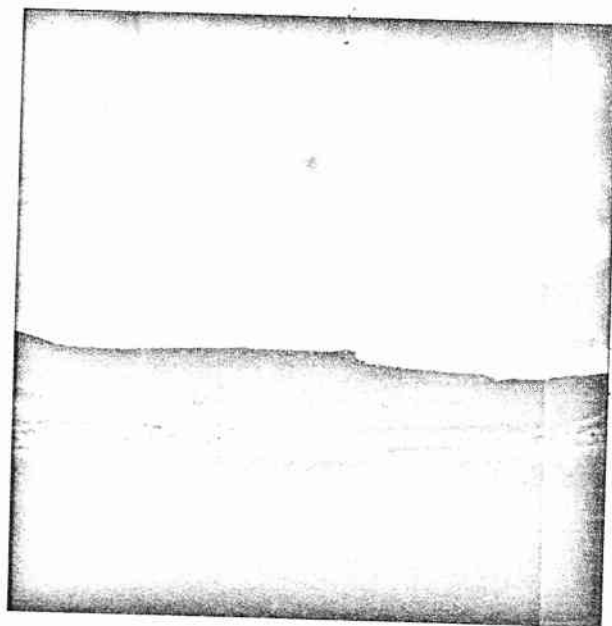
Determination:

This requested action does not constitute a major federal action significantly affecting the environment in the sense of NEPA, Section 102(2)(C)



*E. W. L. ...*

District Engineer  
U. S. Geological Survey  
Conservation Division  
Oil and Gas Operations  
Salt Lake City District



UNITED STATES  
DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY

## APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

## 1a. TYPE OF WORK

DRILL ☒DEEPEN ☐PLUG BACK ☐

## b. TYPE OF WELL

OIL  
WELL ☒GAS  
WELL ☐

OTHER

SINGLE  
ZONE ☒MULTIPLE  
ZONE ☐

## 2. NAME OF OPERATOR

ZION CRUDE OIL COMPANY

## 3. ADDRESS OF OPERATOR

BOX 370, HURRICANE, UTAH 84737

## 4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.)\*

At surface

500'FWL &amp; 630'FSL, SEC 14

At proposed prod. zone

same

## 14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE\*

Approx. 1 mile NE of Virgin, Utah

15. DISTANCE FROM PROPOSED\*  
LOCATION TO NEAREST  
PROPERTY OR LEASE LINE, FT.  
(Also to nearest drlg. unit line, if any)

## 16. NO. OF ACRES IN LEASE

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17. NO. OF ACRES ASSIGNED  
TO THIS WELL

40

18. DISTANCE FROM PROPOSED LOCATION\*  
TO NEAREST WELL, DRILLING, COMPLETED,  
OR APPLIED FOR, ON THIS LEASE, FT.

## 19. PROPOSED DEPTH

570'

## 20. ROTARY OR CABLE TOOLS

rotary percussion

## 21. ELEVATIONS (Show whether DF, RT, GR, etc.)

3600'

## 22. APPROX. DATE WORK WILL START\*

within 90 days of apvl.

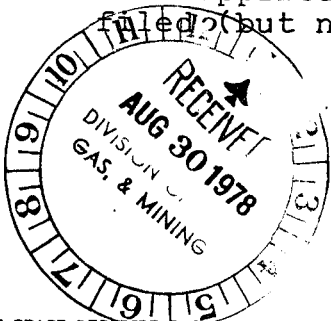
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## PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
8" surface	7"OD	11.5#/ft.	50'	8-10 sacks
6 1/2" to TD				

A. EXHIBITS "A" thru "F" are included with this application. These exhibits satisfy the specific information concerning the access and drilling of this well.

B. This application is in lieu of a an application previously filed (but not approved) for a well named ACE #2.



State of Utah, Department of Resources  
Division of Oil, Gas, and Mining  
1588 West North Temple  
Salt Lake City, Utah 84110

## NOTICE OF APPROVAL

IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: If proposal is to deepen or plug back, give data on present productive zone and proposed new productive zone. If proposal is to drill or deepen directionally, give pertinent data on subsurface locations and measured and true vertical depths. Give blowout preventer program, if any.

SIGNED

*Martin Kuetzing*

TITLE

Vice-President

DATE

3-10-78

(This space for Federal or State office use)

PERMIT NO.

APPROVAL DATE

APPROVED BY

(Orig. Sgd.) E. W. Guynn

TITLE

DISTRICT ENGINEER

DATE

AUG 29 1978

CONDITIONS OF APPROVAL, IF ANY:

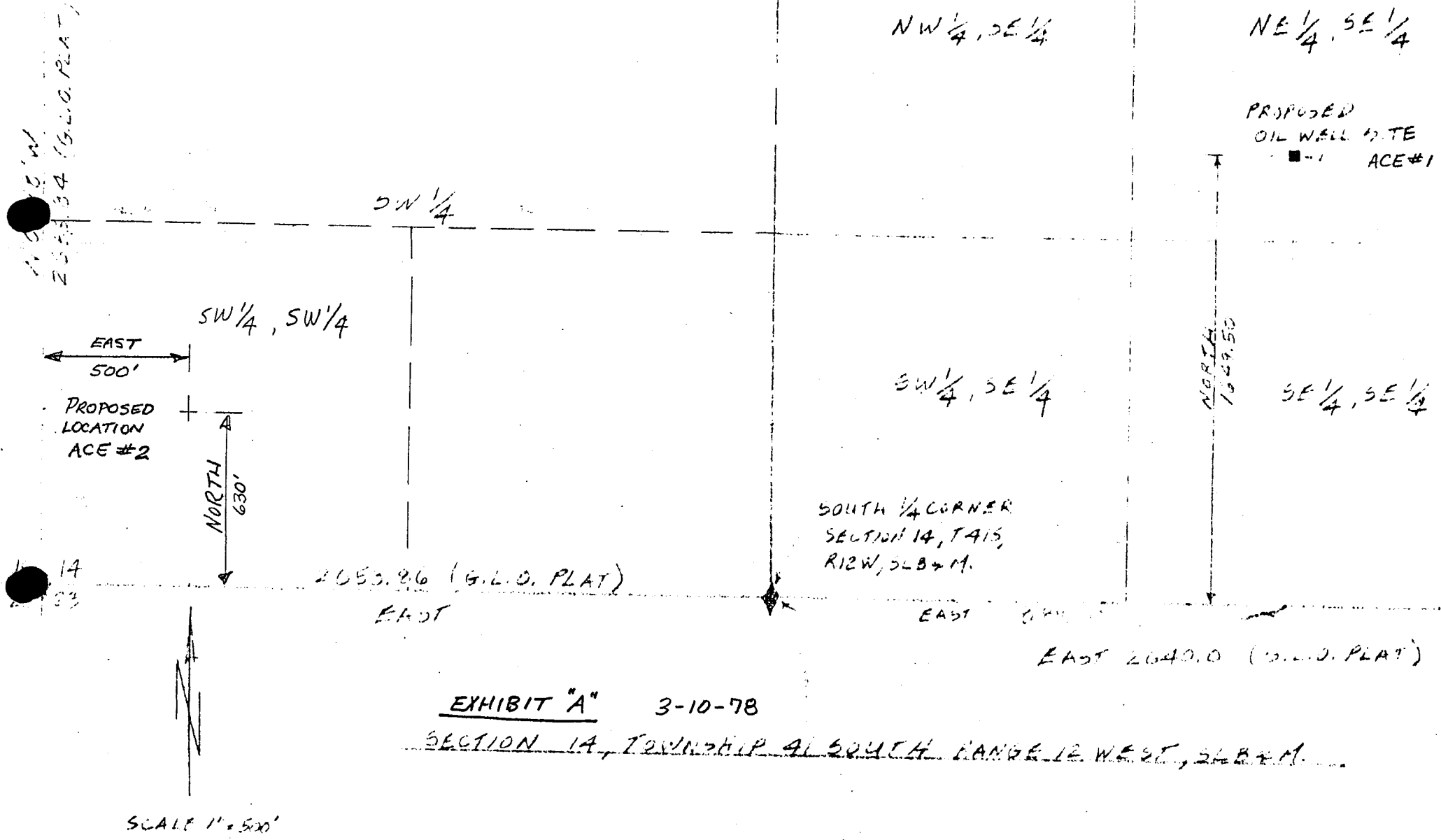
3-13-78

*Martin Kuetzing, VP*

\*See Instructions On Reverse Side

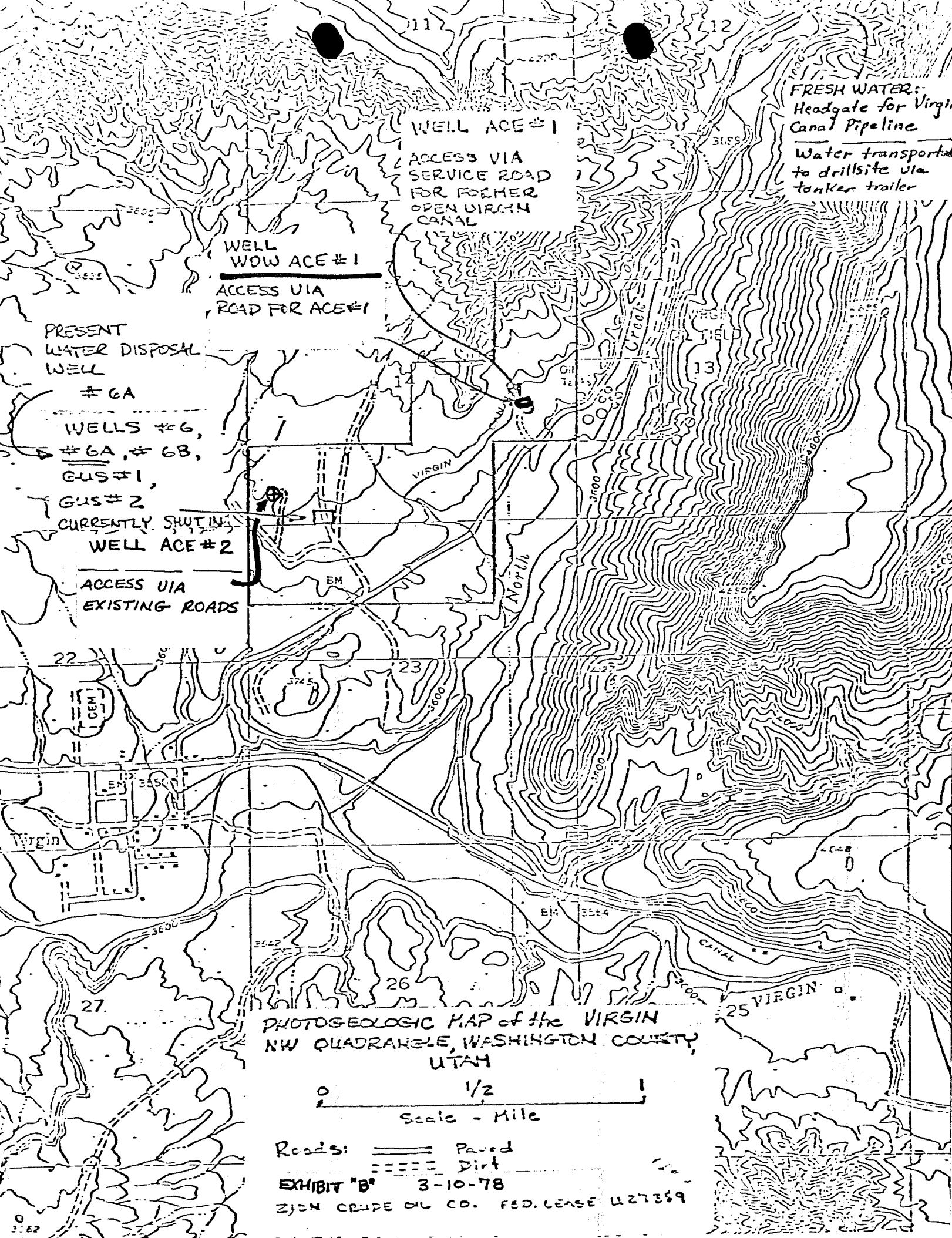
CONDITIONS OF APPROVAL ATTACHED  
TO OPERATOR'S COPYNECESSARY FLARING OF GAS DURING  
DRILLING AND COMPLETION APPROVED  
SUBJECT TO ROYALTY (NTL-4)

NOTICE OF APPROVAL



SURVEYOR'S CERTIFICATE

I, Gale E. Day, St. George, Utah, do hereby certify that I am a registered Land Surveyor and that I hold License No. 2432, as prescribed by the laws of the State of Utah, and I have located a proposed Oil Well site at the following described location:



WELL ACE #1

ACCESS VIA  
SERVICE ROAD  
FOR FORMER  
OPEN VIRGIN  
CANAL

WELL  
WOW ACE #1

ACCESS VIA  
ROAD FOR ACE #1

PRESENT  
WATER DISPOSAL  
WELL

#6A

WELLS #6,

#6A, #6B,

GUS #1,

GUS #2

CURRENTLY SHUT IN  
WELL ACE #2

ACCESS VIA  
EXISTING ROADS

FRESH WATER:  
Headgate for Virgin  
Canal Pipeline

Water transported  
to drillsite via  
tanker trailer

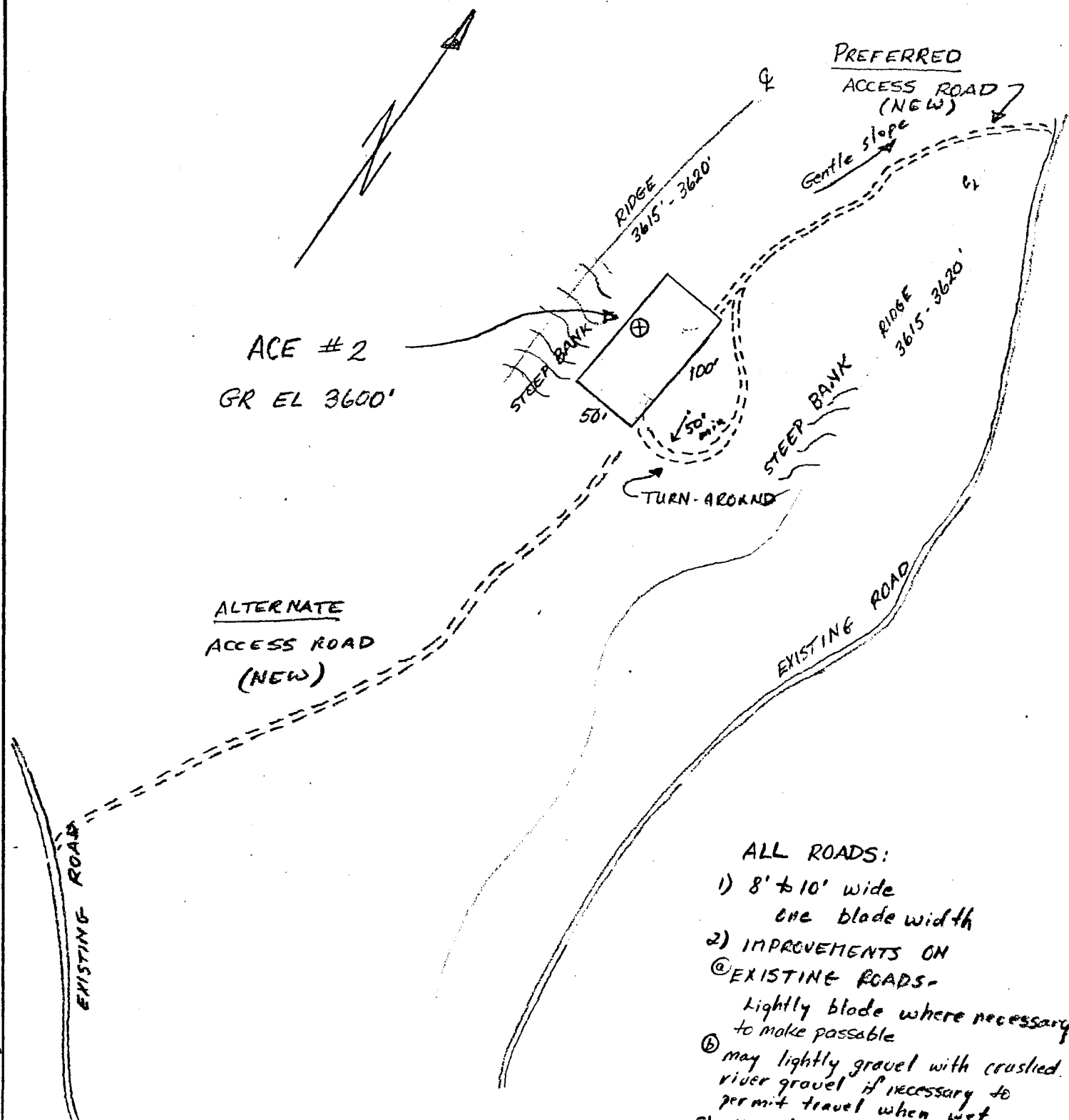
PHOTOGEOLOGIC MAP of the VIRGIN  
NW QUADRANGLE, WASHINGTON COUNTY,  
UTAH

0 1/2 1  
Scale - Mile

Roads: ——— Paved  
----- Dirt

EXHIBIT "B" 3-10-78

ZION CRUDE OIL CO. FED. LEASE U27359



GENERAL DRILL PAD ORIENTATION + POSITION OF ACCESS +  
TURNAROUND

EXHIBIT "C"

3-10-78

ACE #2

ZION CRUDE OIL COMPANY

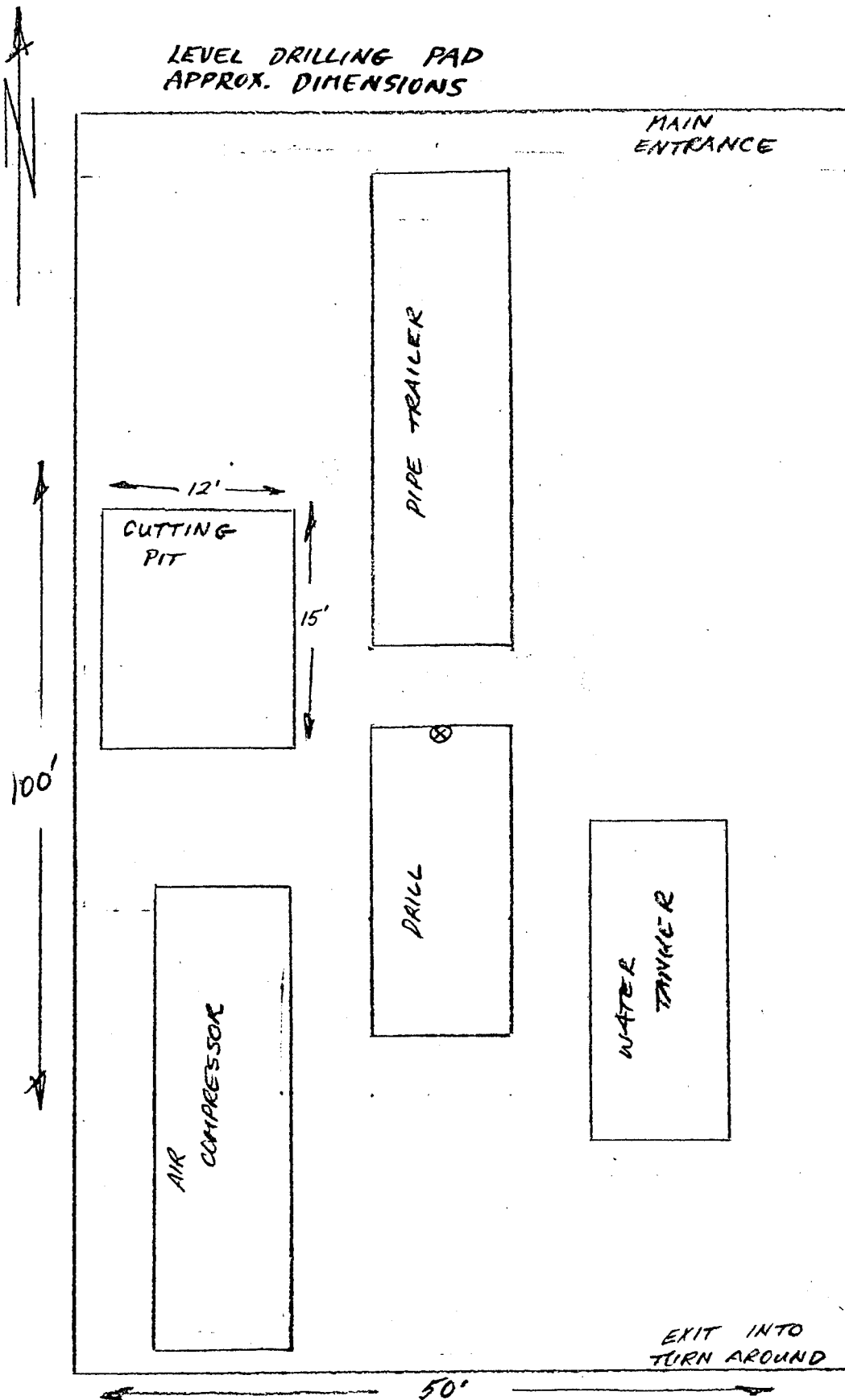
SCALE 1" = 100'

LEASE

U-27359



LEVEL DRILLING PAD  
APPROX. DIMENSIONS



DRILL EQUIPMENT LAYOUT  
PRODUCTION EQUIPMENT WILL OCCUPY SAME SPACE

EXHIBIT "D"	3-10-78	WELL NO. ACE #2	ZION CRUDE OIL COMPANY
SCALE 1" = 10'			LEASE U-27359

## ADDITIONAL INFORMATION REQUIRED TO ACCOMPANY APD

Zion Crude Oil Company U-27359 3-10-78  
 Well: ACE #2  
 500' FWL + 630' FSL SEC 14, T41S, R12W, SLM  
 Washington County, Utah

1. "Moenkopi" is the geologic name of the surface formation.
2. "Kaibab" limestone constitutes the only formation of interest in this well; the top of this stratum is expected at 550' in well ACE #2.
3. No fluid of any kind is expected between the surface and 550'. The target zone for production of oil is 550' to 560'; a total depth of 570' is planned.
4. Surface casing to approximately 40' is the only casing planned for this well.
5. A percussion tool which is operated with high pressure air will be used for drilling ACE #2. 3000 gallons of fresh water will be available to fill well if necessary. Since there is no history of any formation pressure resulting in any noticable effect at the surface, no further blow-out equipment other than a stripper head will be used.
6. Compressed air is used for the circulation medium.
7. Auxiliary pressure control equipment consists of:
  - A) Integral check valve in percussion tool preventing reverse circulation through tool.
  - B) A solid liftig sub which is stabbed into drill string at the surface when the Kelly is not in the string.
8. There are no plans for coring or running logs in the well.
9. No hazards other than those encountered in routine drilling are expected in completing this well.
10. The Spud-in date should be within 90 days of approval of the accompanying APD; completion should follow by 10 working days.

## MULTIPOINT REQUIREMENTS TO ACCOMPANY APD

3-10-78

Zion Crude Oil Company U-27359

Well: ACE #2

500'FWL & 630' FSL, SEC 14, T41S, R12W SLM  
Washington County, Utah1. Existing Roads

- A. EXHIBIT "A" is the location of the proposed wellsite as indicated on the same plat prepared by Bush & Gudgell, Inc.
  - B. EXHIBIT "B" is a photogeologic map showing the location of the proposed well and the surrounding area.
  - C. The majority of the two proposed access routes are over existing trails. With the "preferred" extension used, less cost is involved for construction.
  - D. EXHIBIT "B" shows the approximate locations of all other wells on our lease.
- 
- E. Future plans for the access road maintenance are a extension of the current procedure of covering with a few inch layer of unwashed, crushed gravel when necessary.

2. Planned access Roads

- A. The planned access roads are shown and described in Point 1 above and in EXHIBIT "B" & "C". The extension of the current road is more clearly shown in EXHIBIT "C".

3. Location of existing wells

- A. Locations and status of all wells on Lease U-27359 drilled by Zion Crude Oil Company are shown in EXHIBIT "B".

4. Location of proposed and existing facilities.

- A. EXHIBIT "C" & "D" shows the general layout and plan for existing and proposed facilities for drilling and production. Any lines from the well head to tanks will be surface located; these lines may be buried about 12" below the surface when no further changes in their operation or use are necessary.
- B. No additional facilities than those indicated are planned. There will be no open pits. There will be no superstructure over either well. Fencing may be used to secure the immediate area around the two wells when a firm operating procedure is established.

4. cont.

- C. Substantially all the surface used for drilling the well will be necessary for its operation.

5. Water supply Location

- A. The location of any water used for drilling and completion of ACE #2 will be transported from North Creek by tanker as shown in EXHIBIT "B".

6. Source of Construction Materials

- A. Any materials needed for sculpting the drill pad will be acquired from lightly scaping the surface when extending the existing roadway.
- B. Additional unwashed, crushed gravel will be purchased from a local contractor.

7. Waste Disposal

- A. 1,2,3: cuttings and drilling or produced fluids will be contained within the pit described in EXHIBIT "C" & EXHIBIT "D".
- B. 4 & 5: There will be no sewage disposal on the drill site. Trash and other refuse will be contained in drums and transported to the Virgin City Dump.
- C. 6: The immediate area of the well ( meaning the area described as the drilling pad in EXHIBITS "C" & "D") will be cleared of all equipment unnecessary for the production of the well at such time that there is a successful completion, and production goods have been assembled and made operational. Since the drilling pad will be substantially clear, this same area will be used for tank batteries and other production equipment.

## 8. Ancillary Facilities

No airstrips, camps or other living facilities will be built or needed.

## 9. Well Site Layout

A. 1,2,3,4: EXHIBITS "C" & "D" show the general equipment layout and orientation and approximate size and cross section of drill cutting pit.

No additional surface disturbance will be required.

As stated, the cutting pit will be unlined.

## 10. Plans for Restoration of Surface

(1) Backfilling and leveling will be accomplished as soon as possible after shutting-in or plugging well, or immediately on those areas unused if production is obtained.

(2) We will contact the BLM for suggestions of seeding of area cleared for drilling pad. This will be done for the entire area or unused areas in event of production.

(3) & (4) SEE Point 4, Item C and Point 7, Item A.

(5) Rehabilitation of area should be complete within one to two weeks of completion of well drilling or production activities.

## 11. Other Information

(1) The general topography is that of a gentle washed slope from the nearby mesas. The unconsolidated surface soil is very fine and extends to 10 or more feet below the surface. The flora consists of sage and scattered grasses. The fauna consists of infrequent rodents, snakes and insects. The overall area is extremely dry.

(2) Grazing, former surface mining, exploration pits, and off-road vehicle recreation constitute observed additional surface use. The BLM administers all the land in this lease and the land which will be used directly in this drilling program.

(3) The general geological features of the area, roads nearest inhabited dwellings and layout of streams and of Virgin, Utah are shown in EXHIBIT "B".

12. Operators Representatives

Dr. Murel Goodell  
President, Zion Crude Oil Company  
POB 370  
Hurricane, Utah 84737

Phone: (801) 635-4872

Martin Kuetzing  
Vice-President, Zion Crude Oil Company  
POB 961  
Hurricane, Utah 84737

Phone: (801) 635-4872 673-3216  
Res. (801) 635-4486

13. Certification

I hereby certify that I, or persons under my direct supervision, have inspected the proposed drillsite and access route; that I am familiar with the conditions that presently exist; that the statements made in this plan are, to the best of my knowledge, true and correct; and, that the work associated with the operations proposed herein will be performed by Zion Crude Oil Company and its contractors and subcontractors in conformity with this plan and the terms and conditions under which it is approved.

MARCH 10, 1978

Martin Kuetzing

Vice-President

February 27, 1980

Zion Crude Oil Co.  
Box 370  
Hurricane, Utah 84737

*Send copy to  
Sonja J. McCormick  
A-303 Kearsley Bldg.  
S.O.C. Utah  
84101*

RE: Well No. Ace #2  
Sec. 14, T. 41S, R. 12W  
Washington County, Utah

Gentlemen:

In reference to above mentioned well, considerable time has gone by since approval was obtained from this office.

This office has not received any notification of spudding. If you do not intend to drill this well, please notify this Division. If spudding or any other activity has taken place, please send necessary forms. If we do not hear from your company within fifteen (15) days, we will assume you do not intend to drill this well and action will be taken to terminate the application. If you plan on drilling this location at a later date, please notify as such.

Your prompt attention to the above will be greatly appreciated.

Very truly yours,

DIVISION OF OIL, GAS, AND MINING

*Janice Tabish*

JANICE TABISH  
CLERK TYPIST

March 21, 1980

Zion Crude Oil Co.  
ATTENTION: Sonja V. McCormick  
A-303 Kearns Bldg.  
Salt Lake City, Utah 84101

Re: Well No. Ace #2  
Sec. 14, T. 41S, R. 12W  
Washington County, Utah

Gentlemen:

In reference to above mentioned well, considerable time has gone by since approval was obtained from this office.

This office has not received any notification of spudding. If you have any information on the status of this well, please notify this office.

Your prompt attention to the above will be greatly appreciated.

Very truly yours,

DIVISION OF OIL, GAS, AND MINING

*Janice Tabish*

JANICE TABISH  
CLERK-TYPIST

*Called Geological  
Survey - not drilled yet -  
4-21-80*





SCOTT M. MATHESON  
Governor

OIL, GAS, AND MINING BOARD

GORDON E. HARMSTON  
Executive Director,  
NATURAL RESOURCES

STATE OF UTAH

DEPARTMENT OF NATURAL RESOURCES

DIVISION OF OIL, GAS, AND MINING

1588 West North Temple  
Salt Lake City, Utah 84116  
(801) 533-5771

CHARLES R. HENDERSON  
Chairman

JOHN L. BELL  
C. RAY JUVELIN  
THADIS W. BOX  
MAXILIAN A. FARBMAN  
EDWARD T. BECK  
E. STEELE McINTYRE

CLEON B. FEIGHT  
Director

June 18, 1981

RECEIVED  
JUL 01

Zion Crude Oil Company  
Attn: Sonja V. McCormick 322-4266  
A-303 Kearns Bldg.  
Salt Lake City, Utah 84101

DIVISION OF  
OIL, GAS & MINING

Re: Well No. Ace #2  
Sec. 14, T. 41S, R. 12W  
Washington County, Utah

Gentlemen:

In reference to above mentioned well, considerable time has gone by since approval was obtained from this office.

This office has not received any notification of spudding. If you do not intend to drill this well, please notify this Division. If spudding or any other activity has taken place, please send necessary forms. If we do not hear from your company within fifteen (15) days, we will assume you do not intend to drill this well and action will be taken to terminate the application. If you plan on drilling this location at a later date, please notify as such.

Your prompt attention to the above will be greatly appreciated.

Very truly yours,

DIVISION OF OIL, GAS, AND MINING

*Cleon B. Feight*  
Cleon B. Feight  
Director

/lm

✓ July 1, 1981

Jack, I understand Murel Goodell died a few months ago, and I cannot locate anyone who is taking care of his operations.

Sonja



STATE OF UTAH  
NATURAL RESOURCES & ENERGY  
Oil, Gas & Mining

Scott M. Matheson, Governor  
Temple A. Reynolds, Executive Director  
Cleon B. Feight, Division Director

4241 State Office Building • Salt Lake City, UT 84114 • 801-533-5771

February 17, 1982

Zion Crude Oil Company  
Att: Sonja V. McCormick  
A-303 Kearns Bldg.  
Salt Lake City, Utah 84101

Re: Well No. Ace #2  
Sec. 14, T. 41S, R. 12W  
Washington County, Utah

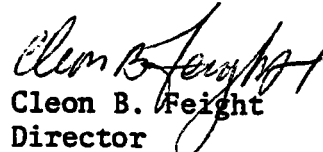
Gentlemen:

Approval to drill the above mentioned well, which was granted in our letter of February 27, 1980, is hereby terminated for failure to spud it within a reasonable period of time.

If and when you should decide to drill this well, it will be necessary for you to again obtain the approval of this Division.

Very truly yours,

DIVISION OF OIL, GAS AND MINING

  
Cleon B. Feight  
Director

Minerals Management Service  
2000 Administration Building  
1745 West 1700 South  
Salt Lake City, Utah 84104-3884

February 11, 1982

Zion Crude Oil Company  
Box 370  
Hurricane, Utah 84737

Re: Application for Permit  
to Drill  
Well No. Ace #2 and Ace #3  
Section 14. T. 41S, R. 12W.  
Washington County, Utah  
Lease No. U-27359

Gentlemen:

The Applications for Permit to Drill the referenced wells were approved August 29 and August 11, 1978, respectively. Since that date no known activity has transpired at the approved locations. Under current District policy, application's for permit to drill are effective for a period of one year. In view of the foregoing this office is rescinding the approval of the referenced applications without prejudice. If you intend to drill at these locations on a future date a new application for permit to drill must be submitted.

This office requires a letter confirming that no surface disturbance has been made for these drill sites. Any surface disturbance associated with the approved locations of these wells is to be rehabilitated. A schedule for this rehabilitation must, then be submitted. Your cooperation in this matter is appreciated.

Sincerely,

W. P. MARTENS  
Drilling Unit Supervisor

E. W. Gynn  
District Oil and Gas Supervisor

bcc: SMA-BLM, Cedar City  
State Office (O&G)  
State Office (BLM)  
MMS-Vernal  
Well File  
APD Control

WPM/db

RECEIVED  
FEB 18 1982

DIVISION OF  
OIL, GAS & MINING

# UNITED STATES POSTAL SERVICE

OFFICIAL BUSINESS\*

## SENDER INSTRUCTIONS

Print your name, address, and ZIP Code in the space below.

- Complete items 1, 2, and 3 on the reverse.
- Attach to front of article if space permits, otherwise affix to back of article.
- Endorse article "Return Receipt Requested" adjacent to number.

PENALTY FOR PRIVATE  
USE TO AVOID PAYMENT  
OF POSTAGE, \$300



RETURN  
TO



Division of Oil, Gas & Mining  
(Name of Sender)

4241 State Office Bldg.  
(Street or P.O. Box)

Salt Lake City, Ut 84141  
(City, State, and ZIP Code)

**STICK POSTAGE STAMPS TO ARTICLE TO COVER FIRST CLASS POSTAGE,  
CERTIFIED MAIL FEE, AND CHARGES FOR ANY SELECTED OPTIONAL SERVICES. (see front)**

*Ace #2, Sec 14, H1S, 12W  
Washington*

1. If you want this receipt postmarked, stick the gummed stub on the left portion of the address side of the article, **leaving the receipt attached**, and present the article at a post office service window or hand it to your rural carrier. (no extra charge)
2. If you do not want this receipt postmarked, stick the gummed stub on the left portion of the address side of the article, date, detach and retain the receipt, and mail the article.
3. If you want a return receipt, write the certified-mail number and your name and address on a return receipt card, Form 3811, and attach it to the front of the article by means of the gummed ends if space permits. *Otherwise, affix to back of article.* Endorse front of article **RETURN RECEIPT REQUESTED** adjacent to the number.
4. If you want delivery restricted to the addressee, or to an authorized agent of the addressee, endorse **RESTRICTED DELIVERY** on the front of the article.
5. Enter fees for the services requested in the appropriate spaces on the front of this receipt. If return receipt is requested, check the applicable blocks in Item 1 of Form 3811.
6. Save this receipt and present it if you make inquiry.

SENDER: Complete items 1, 2, and 3.  
Add your address in the "RETURN TO" space  
reverse.

1. The following service is requested (check one.)

- ☒ Show to whom and date delivered..... \$  
☐ Show to whom, date and address of delivery... \$  
☐ RESTRICTED DELIVERY  
Show to whom and date delivered..... \$  
☐ RESTRICTED DELIVERY.  
Show to whom, date, and address of delivery. \$

(CONSULT POSTMASTER FOR FEES)

2. ARTICLE ADDRESSED TO:

Zion Crude Oil Co  
A-303 Kearns Bldg.  
SLC, UT 84101

CF

3. ARTICLE DESCRIPTION:

REGISTERED NO.	CERTIFIED NO.	INSURED NO.
P22	4791191	

(Always obtain signature of addressee or agent)

I have received the article described above.

SIGNATURE ☐ Addressee ☐ Authorized agent

*Patricia V. Kendall*

DATE OF DELIVERY

2-19-82

POSTMARK

FEB 19 1982

5. ADDRESS (Complete only if requested)

6. UNABLE TO DELIVER BECAUSE:

CLERK'S  
INITIALS

P22 4791191

## RECEIPT FOR CERTIFIED MAIL

NO INSURANCE COVERAGE PROVIDED—  
NOT FOR INTERNATIONAL MAIL

(See Reverse)

(CF)

SENT TO				Zion Crude Att: Sonja	
STREET AND NO.				R-303 Kearns Bldg.	
P.O., STATE AND ZIP CODE				SLC UT 84101	
POSTAGE				\$	
CONSULT POSTMASTER FOR FEES	OPTIONAL SERVICES	CERTIFIED FEE		¢	
		SPECIAL DELIVERY		¢	
	RETURN RECEIPT SERVICE	RESTRICTED DELIVERY		¢	
		SHOW TO WHOM AND DATE DELIVERED		¢	
		SHOW TO WHOM, DATE, AND ADDRESS OF DELIVERY		¢	
		SHOW TO WHOM AND DATE DELIVERED WITH RESTRICTED DELIVERY		¢	
		SHOW TO WHOM, DATE AND ADDRESS OF DELIVERY WITH RESTRICTED DELIVERY		¢	
TOTAL POSTAGE AND FEES				\$	
POSTMARK OR DATE				